

CANCER IN BASRAH: A STRATEGY FOR THE FUTURE

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ABSTRACT

Cancer can be controlled by at least five synchronized strategies: population-based registration, prevention using both high risk and population approaches, adequate services for early detection and treatment, palliative care and research. In this paper, we present a view on how to adopt such multi-approach strategy to contain cancer in Basrah and in Iraq. The assumptions behind our view are:

1. Cancer is an important public health problem
2. Cancer is a growing public health problem
3. Many cancers are preventable, many others can be cured and only small proportions lie outside the domains of prevention and cure.
4. The strategy encompasses all necessary partners (academic, health, environmental, NGOs ...etc)

We believe that the first correct step in the strategy is adequate population-based cancer registration. The authors are prepared to discuss their views with open constructive mind.

1. Theoretical background

Despite enormous efforts to improve survival of patients with cancer through various modalities of cancer therapy, successes are still limited. Cancer is increasing at global, regional and national levels.^[1-2] Therefore, prevention should be the main concern. In theory, preventive measures could result in avoiding up to 80% of new cancer cases.^[3] Primary prevention of cancer concerns the identification and manipulation of the genetic, biological and environmental factors in the cancer causal pathway. Smoking cessation, diet modification, and chemoprevention are examples of primary preventive activities. Secondary prevention concerns the identification of asymptomatic neoplastic lesions combined with effective therapy. Screening is important tool that helps in identification of early cases and hence in effective secondary prevention. It would be useful to further elaborate on certain aspects of preventive measures against cancer.

2. Prevention of cancer

2.1. Primary prevention

Education and healthful habits: It is quite feasible and useful to convey many educational messages to the public through commercials in prints, electronic media, mass media and school health courses. The physician and other health personnel are potentially powerful messengers in the health education campaign against cancer related ill-behaviours.

Smoking cessation: Tobacco use through cigarette smoking and other means is the most avoidable risk factor for cardiovascular diseases and cancer.^[4] Light and low tar cigarettes are not safer because smokers tend to inhale them more frequently and more deeply. In addition to lung cancer, cigarette smoking is a causative agent in cancers of the larynx, oesophagus, urinary bladder and pancreas. Epidemiological studies suggest that environmental tobacco smoke may cause lung cancer and other pulmonary diseases in non-smokers. The health risk of cigar smoking is similar to that of cigarette. Also, smokeless tobacco (chewing tobacco) is a carcinogen linked to dental caries, gingivitis, leucoplakia and oral cancer. Most of smokers begin smoking before the age of 18 years.^[5] It is therefore critical to adopt counseling of adolescents and young adults to prevent smoking. The aim of any educational message should concentrate on encouraging complete quitting rather than gradual reducing smoking. The complete quitters are more likely to succeed than the gradual quitters. Every one should be encouraged not to smoke, to stop smoking and not to return to smoking again. Disseminating the culture of no smoking may mean no cancer. The issue of active and passive smoking do necessitates the need to confine smoking to limited spaces to start with. Then complete prohibition of smoking in public places is the next logical step through health education, legislation concerning advertisement,

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prohibition of smoking in public places, transportation vehicles, restaurants, workplaces, universities, hospitals..etc. Taxation on production, transportation, selling and other aspects of the process of smoking propagation is another supportive measure.

Diet modification: diet high in fat increases the risk for cancers of breast, colon, stomach, prostate, bladder, lung, pancreas and endometrium.^[6] Dietary fiber appears protective against colonic polyps and invasive cancer of the colon.^[5] No solid scientific evidence has established yet the anti carcinogenic value of vitamins, minerals or nutritional supplements in amounts greater than that provided by a normal good diet. However, consuming at least five servings of fruits and vegetables a day decreases the risk of cardiovascular diseases and cancer.^[6-7] In Muslim countries, it is a unique opportunity to avoid alcohol consumption through health education messages that incorporate religious and health values.

Sun avoidance: non-melanoma skin cancers (basal cell and squamous cell) are induced by cumulative exposure to ultraviolet radiation. Intermittent acute sun exposure and sun damage have been linked to melanoma.^[7] Sunburns in childhood and adolescence are associated with an increased risk of cancer. Protective clothing and changes in the pattern of outdoor activities can reduce the risk of cancer. Sunscreens decrease the risk of keratoses, the precursor of squamous cell carcinoma of skin.^[7]

Cancer chemoprevention: It involves the use of specific natural or synthetic chemical agent to reverse, suppress or prevent carcinogenesis before the development of invasive malignancy. Cancer can be prevented or controlled through interference with the factors that cause initiation, promotion or progression of cancer. Tamoxifen and ralxifene are chemopreventive drugs to lower the risk of breast cancer in high risk women.^[8] Other chemopreventive agents include oral contraceptives for ovarian cancer, folic acid, NSAIDs and calcium for colonic cancer and finasteride for prostatic cancer. Cancer vaccines such as that used against human papilloma virus offer promise of preventing cervical cancer. The hepatitis B

vaccine is quite effective in preventing hepatitis and hence hepatoma associated with chronic hepatitis B infection.^[8]

Surgical prevention of cancer: women with severe cervical dysplasia are treated with conization and occasionally even with hysterectomy. Colonectomy is used to prevent colon cancer in people with familial polyposis coli and those with ulcerative colitis. Bilateral mastectomy may be a choice to prevent cancer in high risk women (BRCA1 and BRCA 2 mutations).

Avoidance of exposure to radiation and other pollutants in the general environment or in the work environment: the effect of radiation may be minimized by the following measures:

- a. Total avoidance of sources of radiation particularly ionizing radiation. If one is not obliged to visit a place contaminated with radioactive material, he should not visit such a place.
- b. Limitation of contact with radiation to the minimum time as possible.
- c. The use of barriers in any place dealing with radioactive sources.
- d. Containment. Always radioactive material including radioactive isotopes used in medical practice should be contained in sealed safe containers.

One of the problems in Basrah is the fact that many contaminated scraps and damaged vehicles are not eliminated from the potentially risky places.

2.2. Secondary prevention

Secondary prevention is based on early detection and prompt treatment of cancer. Early detection of cancer needs effective routine screening, periodic medical examination, counseling, high perception of persons of suspicious signals and other methods.

Screening as a method of early detection of cancer and early prevention. Screening is a medical examination using rapid laboratory tests, physical examination or any other method to early detect disease in apparently healthy population. It is the basis of secondary prevention and be applied as mass, selective, multiphase or prescriptive. Secondary

prevention (early detection and effective treatment of disease) is achieved with screening to detect disease in early stages in asymptomatic patients. Screening alone is not an optimal approach to cancer control and should be regarded as complementary to other more effective approaches. Diseases for which screening tests are available and recommended include:

Breast cancer for which annual mammography in women 50 years of age or older. Possible benefit is also considered in women aged 40-49 years. In Basrah, breast cancer is the leading cancer in all the population and in females and from priority point of view, it deserves an effective early detection measures given the fact that early detected breast cancer has good prognosis and high survival rates after treatment.^[7] Cervical cancer by the use of annual Pap test for women within 3 years of beginning of sexual intercourse but not later than age 21 years. Visual inspection of the cervix may be of value in a good high quality clinical care setting. The position of cervical cancer does not warrant the application of screening programme at the present time given the constrained resources available to the health sector.^[7] Colon cancer (annual faecal occult blood test- 3 specimens, flexible sigmoidoscopy and barium enema every 5 years or colonoscopy every 10 years) in people aged 50 years and above. Prostate cancer (annual prostate specific antigen in men aged 50 years and older). In addition, Some benefit is also observed through the use of digital rectal examination, pelvic examination, breast self-examination and complete skin examination. Genetic screening, as a primary prevention: DNA testing is available for several types of cancer. This test is reserved for people with a strong family history of the disease as in case of breast cancer, ovarian cancer and Colon cancer syndrome:, familial adenomatous polyposis coli and hereditary nonpolyposis colon cancer.

3. Warning signals of cancer

People may be instructed to observe the following developments as warning signals of cancer:

1. Sudden loss of appetite.

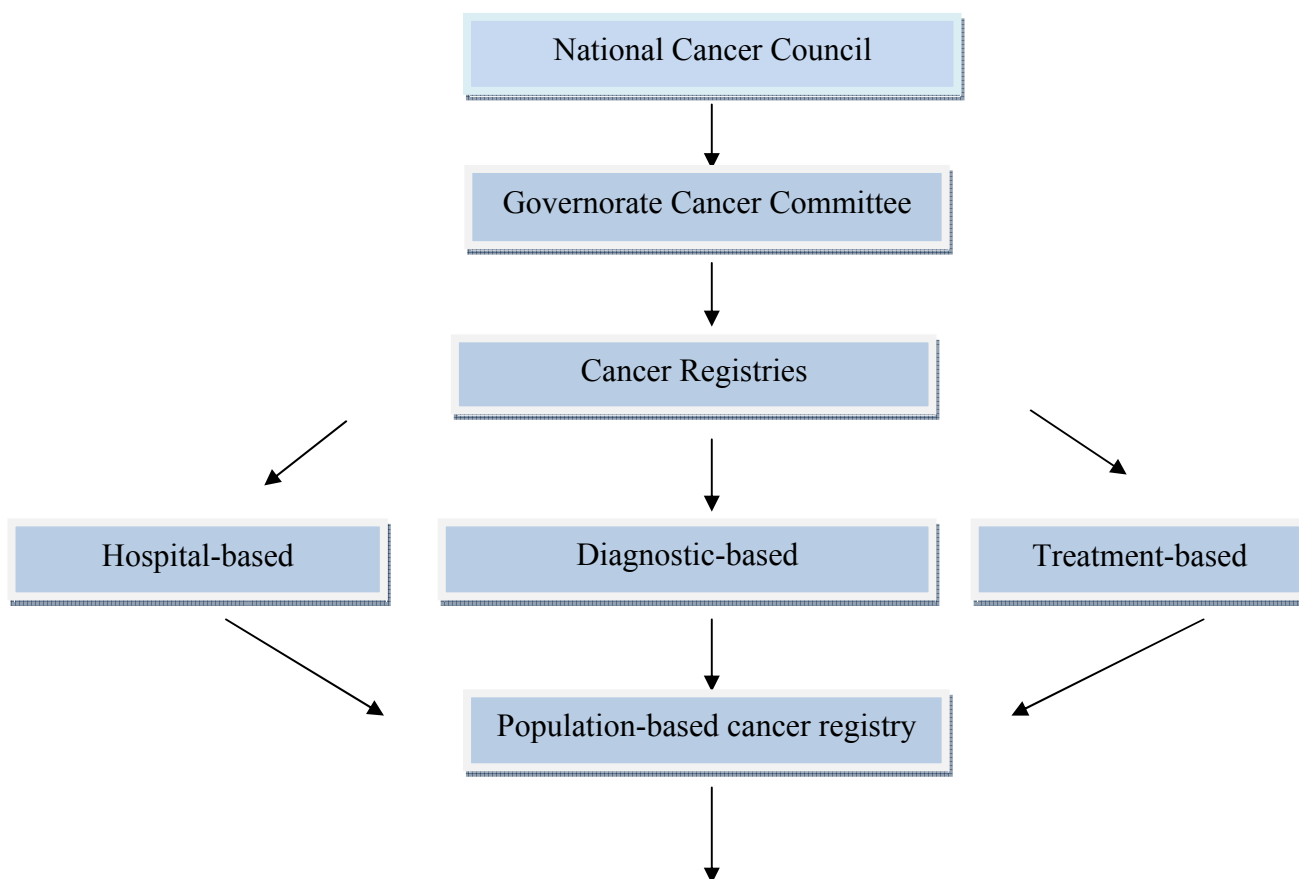
2. Sudden and unexplained loss of body weight during a short period of time.
3. Persistent cough with and without harshness of voice.
4. Change in size and colour of warts
5. Sudden change in bowel habit.
6. Appearance of swelling or ulceration which do not respond to treatment.
7. Changes in nipple, retraction or bleeding or appearance of mass in the breast.

4. Outline strategy to control cancer

The broad components of the strategy to control cancer in the Eastern Mediterranean Region countries are briefed below:^[7]

1. Prevention at individual and population level through reduction or elimination of exposure to modifiable risk factors (lifestyle factors, smoking, physical activity, diet, body weight...etc) through, health education, restriction of use and provision of alternatives. Legislation to protect man from environmental hazards and to protect environment from man ill behaviour are important component of any programme.
2. Early detection through the adoption of screening including self-screening.
3. Effective treatment which depends on availability of drugs, facilities, teamwork approach, follow up and monitoring of survival.
4. Palliative care
5. Monitoring. This requires:
 - *Population-based cancer registry*
 - *Periodic calculation of specific epidemiological parameters*
 - *Studies on level and distribution of risk factors*
 - *Analytical studies to quantify causal associations*
 - *Scientific activities like conferences, workshops, seminars.*
6. Scientific research

The framework for cancer control and prevention strategy in Iraq is simplified in the diagram below:



The data generated in this registry is the basis for

1. Decision making and care planning
2. Monitoring of spatial, time and social distribution
3. Research on determinants of cancer

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